



IFWO

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/723,475

DATE: 08/27/2004

TIME: 11:58:14

Input Set : N:\Crf3\RULE60\10723475.raw
 Output Set: N:\CRF4\08272004\J723475.raw

1 <110> APPLICANT: CALIFORNIA INSTITUTE OF TECHNOLOGY

2 LYAPINA, Svetlana

3 VERMA, Rati

4 DESHAIES, Raymond

5 <120> TITLE OF INVENTION: REGULATION OF TARGET PROTEIN ACTIVITY THROUGH MODIFIER
PROTEINS

6 <130> FILE REFERENCE: CIT1510-3

7 <140> CURRENT APPLICATION NUMBER: US/10/723,475

8 <141> CURRENT FILING DATE: 2003-11-25

9 <150> PRIOR APPLICATION NUMBER: US/10/046,961

10 <151> PRIOR FILING DATE: 2002-01-14

11 <150> PRIOR APPLICATION NUMBER: US 60/261,314

12 <151> PRIOR FILING DATE: 2001-01-12

13 <150> PRIOR APPLICATION NUMBER: US 60/322,322

14 <151> PRIOR FILING DATE: 2001-09-14

15 <150> PRIOR APPLICATION NUMBER: US 60/322,030

16 <151> PRIOR FILING DATE: 2001-09-14

17 <160> NUMBER OF SEQ ID NOS: 22

18 <170> SOFTWARE: PatentIn version 3.1

20 <210> SEQ ID NO: 1

21 <211> LENGTH: 14

22 <212> TYPE: PRT

23 <213> ORGANISM: Artificial sequence

24 <220> FEATURE:

25 <223> OTHER INFORMATION: JAM domain

ENTERED

W--> 26 <221> NAME/KEY: MISC_FEATURE

27 <222> LOCATION: (1)..(14)

28 <223> OTHER INFORMATION: Xaa is any amino acid

W--> 29 <400> 1

W--> 30 His Xaa His Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp

31 1 5

10

33 <210> SEQ ID NO: 2

34 <211> LENGTH: 17

35 <212> TYPE: PRT

36 <213> ORGANISM: Artificial sequence

37 <220> FEATURE:

38 <223> OTHER INFORMATION: JAM domain

W--> 39 <221> NAME/KEY: MISC_FEATURE

40 <222> LOCATION: (3)..(3)

41 <223> OTHER INFORMATION: Xaa is Tyr or Ile

W--> 42 <221> MISC_FEATURE

43 <222> LOCATION: (5)..(5)

44 <223> OTHER INFORMATION: Xaa is Ser or Thr

W--> 45 <221> MISC_FEATURE

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Input Set : N:\Crf3\RULE60\10723475.raw
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46 <222> LOCATION: (8)..(16)
 47 <223> OTHER INFORMATION: Xaa is any amino acid
 W--> 48 <400> 2
 W--> 49 Gly Trp Xaa His Xaa His Pro Xaa Xaa Xaa Xaa Xaa Ser Xaa Xaa
 50 1 5 10 15
 51 Asp
 53 <210> SEQ ID NO: 3
 54 <211> LENGTH: 246
 55 <212> TYPE: PRT
 56 <213> ORGANISM: Homo sapiens
 57 <400> SEQUENCE: 3
 58 Thr Met Ile Ile Met Asp Ser Phe Ala Leu Pro Val Glu Thr Glu
 59 1 5 10 15
 60 Thr Arg Val Asn Ala Gln Ala Ala Ala Tyr Glu Tyr Met Ala Ala Tyr
 61 20 25 30
 62 Ile Glu Asn Ala Lys Gln Val Gly Arg Leu Glu Asn Ala Ile Gly Trp
 63 35 40 45
 64 Tyr His Ser His Pro Gly Tyr Gly Cys Trp Leu Ser Gly Ile Asp Val
 65 50 55 60
 66 Ser Thr Gln Met Leu Asn Gln Gln Phe Gln Glu Pro Phe Val Ala Val
 67 65 70 75 80
 68 Val Ile Asp Pro Thr Arg Thr Ile Ser Ala Gly Lys Val Asn Leu Gly
 69 85 90 95
 70 Ala Phe Arg Thr Tyr Pro Lys Gly Tyr Lys Pro Pro Asp Glu Gly Pro
 71 100 105 110
 72 Ser Glu Tyr Gln Thr Ile Pro Leu Asn Lys Ile Glu Asp Phe Gly Val
 73 115 120 125
 74 His Cys Lys Gln Tyr Tyr Ala Leu Glu Val Ser Tyr Phe Lys Ser Ser
 75 130 135 140
 76 Leu Asp Arg Lys Leu Leu Glu Leu Leu Trp Asn Lys Tyr Trp Val Asn
 77 145 150 155 160
 78 Thr Leu Ser Ser Ser Leu Leu Thr Asn Ala Asp Tyr Thr Gly
 79 165 170 175
 80 Gln Val Phe Asp Leu Ser Glu Lys Leu Glu Gln Ser Glu Ala Gln Leu
 81 180 185 190
 82 Gly Arg Gly Ser Phe Met Leu Gly Leu Glu Thr His Asp Arg Lys Ser
 83 195 200 205
 84 Glu Asp Lys Leu Ala Lys Ala Thr Arg Asp Ser Cys Lys Thr Thr Ile
 85 210 215 220
 86 Glu Ala Ile His Gly Leu Met Ser Gln Val Ile Lys Asp Lys Leu Phe
 87 225 230 235 240
 88 Asn Gln Ile Asn Ile Ser
 89 245
 91 <210> SEQ ID NO: 4
 92 <211> LENGTH: 245
 93 <212> TYPE: PRT
 94 <213> ORGANISM: Homo sapiens
 95 <400> SEQUENCE: 4
 96 Thr Val Arg Val Ile Asp Val Phe Ala Met Pro Gln Ser Gly Thr Gly

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97      1          5          10          15
98 Val Ser Val Glu Ala Val Asp Pro Val Phe Gln Ala Lys Met Leu Asp
99           20          25          30
100 Met Leu Lys Gln Thr Gly Arg Pro Glu Met Val Val Gly Trp Tyr His
101           35          40          45
102 Ser His Pro Gly Phe Gly Cys Trp Leu Ser Gly Val Asp Ile Asn Thr
103           50          55          60
104 Gln Gln Ser Phe Glu Ala Leu Ser Glu Arg Ala Val Ala Val Val Val
105           65          70          75          80
106 Asp Pro Ile Gln Ser Val Lys Gly Lys Val Val Ile Asp Ala Phe Arg
107           85          90          95
108 Leu Ile Asn Ala Asn Met Met Val Leu Gly His Glu Pro Arg Gln Thr
109           100         105         110
110 Thr Ser Asn Leu Gly His Leu Asn Lys Pro Ser Ile Gln Ala Leu Ile
111           115         120         125
112 His Gly Leu Asn Arg His Tyr Tyr Ser Ile Thr Ile Asn Tyr Arg Lys
113           130         135         140
114 Asn Glu Leu Glu Gln Lys Met Leu Leu Asn Leu His Lys Lys Ser Trp
115           145         150         155         160
116 Met Glu Gly Leu Thr Leu Gln Asp Tyr Ser Glu His Cys Lys His Asn
117           165         170         175
118 Glu Ser Val Val Lys Glu Met Leu Glu Leu Ala Lys Asn Tyr Asn Lys
119           180         185         190
120 Ala Val Glu Glu Asp Lys Met Thr Pro Glu Gln Leu Ala Ile Lys
121           195         200         205
122 Asn Val Gly Lys Gln Asp Pro Lys Arg His Leu Glu Glu His Val Asp
123           210         215         220
124 Val Leu Met Thr Ser Asn Ile Val Gln Cys Leu Ala Ala Met Leu Asp
125           225         230         235         240
126 Thr Val Val Phe Lys
127           245
129 <210> SEQ ID NO: 5
130 <211> LENGTH: 421
131 <212> TYPE: PRT
132 <213> ORGANISM: Homo sapiens
133 <400> SEQUENCE: 5
134 Met Pro Asp His Thr Asp Val Ser Leu Ser Pro Glu Glu Arg Val Arg
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136 Ala Leu Ser Lys Leu Gly Cys Asn Ile Thr Ile Ser Glu Asp Ile Thr
137           20          25          30
138 Pro Arg Arg Tyr Phe Arg Ser Gly Val Glu Met Glu Arg Met Ala Ser
139           35          40          45
140 Val Tyr Leu Glu Glu Gly Asn Leu Glu Asn Ala Phe Val Leu Tyr Asn
141           50          55          60
142 Lys Phe Ile Thr Leu Phe Val Glu Lys Leu Pro Asn His Arg Asp Tyr
143           65          70          75          80
144 Gln Gln Cys Ala Val Pro Glu Lys Gln Asp Ile Met Lys Lys Leu Lys
145           85          90          95
146 Glu Ile Ala Phe Pro Arg Thr Asp Glu Leu Lys Asn Asp Leu Leu Lys

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147          100          105          110
148 Lys Tyr Asn Val Glu Tyr Gln Glu Tyr Leu Gln Ser Lys Asn Lys Tyr
149           115           120           125
150 Lys Ala Glu Ile Leu Lys Lys Leu Glu His Gln Arg Leu Ile Glu Ala
151           130           135           140
152 Glu Arg Lys Arg Ile Ala Gln Met Arg Gln Gln Gln Leu Glu Ser Glu
153           145           150           155           160
154 Gln Phe Leu Phe Phe Asp Gln Leu Lys Lys Gln Glu Leu Ala Arg
155           165           170           175
156 Gly Gln Met Arg Ser Gln Gln Thr Ser Gly Leu Ser Glu Gln Ile Asp
157           180           185           190
158 Gly Ser Ala Leu Ser Cys Phe Ser Thr His Gln Asn Asn Ser Leu Leu
159           195           200           205
160 Asn Val Phe Ala Asp Gln Pro Asn Lys Ser Asp Ala Thr Asn Tyr Ala
161           210           215           220
162 Ser His Ser Pro Pro Val Asn Arg Ala Leu Thr Pro Ala Ala Thr Leu
163           225           230           235           240
164 Ser Ala Val Gln Asn Leu Val Val Glu Gly Leu Arg Cys Val Val Leu
165           245           250           255
166 Pro Glu Asp Leu Cys His Lys Phe Leu Gln Leu Ala Glu Ser Asn Thr
167           260           265           270
168 Val Arg Gly Ile Glu Thr Cys Gly Ile Leu Cys Gly Lys Leu Thr His
169           275           280           285
170 Asn Glu Phe Thr Ile Thr His Val Ile Val Pro Lys Gln Ser Ala Gly
171           290           295           300
172 Pro Asp Tyr Cys Asp Met Glu Asn Val Glu Glu Leu Phe Asn Val Gln
173           305           310           315           320
174 Asp Gln His Asp Leu Leu Thr Leu Gly Trp Ile His Thr His Pro Thr
175           325           330           335
176 Gln Thr Ala Phe Leu Ser Ser Val Asp Leu His Thr His Cys Ser Tyr
177           340           345           350
178 Gln Leu Met Leu Pro Glu Ala Ile Ala Ile Val Cys Ser Pro Lys His
179           355           360           365
180 Lys Asp Thr Gly Ile Phe Arg Leu Thr Asn Ala Gly Met Leu Glu Val
181           370           375           380
182 Ser Ala Cys Lys Lys Lys Gly Phe His Pro His Thr Lys Glu Pro Arg
183           385           390           395           400
184 Leu Phe Ser Ile Cys Lys His Val Leu Val Lys Asp Ile Lys Ile Ile
185           405           410           415
186 Val Leu Asp Leu Arg
187           420
188 <210> SEQ ID NO: 6
189 <211> LENGTH: 461
190 <212> TYPE: PRT
191 <213> ORGANISM: Homo sapiens
192 <400> SEQUENCE: 6
193 Met Asp Gln Pro Phe Thr Val Asn Ser Leu Lys Lys Leu Ala Ala Met
194           1           5           10           15
195 Pro Asp His Thr Asp Val Ser Leu Ser Pro Glu Glu Arg Val Arg Ala

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197	20	25	30
198	Leu Ser Lys Leu Gly Cys Asn Ile Thr Ile Ser Glu Asp Ile Thr Pro		
199	35	40	45
200	Arg Arg Tyr Phe Arg Ser Gly Val Glu Met Glu Arg Met Ala Ser Val		
201	50	55	60
202	Tyr Leu Glu Glu Gly Asn Leu Glu Asn Ala Phe Val Leu Tyr Asn Lys		
203	65	70	75
204	Phe Ile Thr Leu Phe Val Glu Lys Leu Pro Asn His Arg Asp Tyr Gln		
205	85	90	95
206	Gln Cys Ala Val Pro Glu Lys Gln Asp Ile Met Lys Lys Leu Lys Glu		
207	100	105	110
208	Ile Ala Phe Pro Arg Thr Asp Glu Leu Lys Asn Asp Leu Leu Lys Lys		
209	115	120	125
210	Tyr Asn Val Glu Tyr Gln Glu Tyr Leu Gln Ser Lys Asn Lys Tyr Lys		
211	130	135	140
212	Ala Glu Ile Leu Lys Lys Leu Glu His Gln Arg Leu Ile Glu Ala Glu		
213	145	150	155
214	Arg Lys Arg Ile Ala Gln Met Arg Gln Gln Gln Leu Glu Ser Glu Gln		
215	165	170	175
216	Phe Leu Phe Phe Glu Asp Gln Leu Lys Lys Gln Glu Leu Ala Arg Gly		
217	180	185	190
218	Gln Met Arg Ser Gln Gln Thr Ser Gly Leu Ser Glu Gln Ile Asp Gly		
219	195	200	205
220	Ser Ala Leu Ser Cys Phe Ser Thr His Gln Asn Asn Ser Leu Leu Asn		
221	210	215	220
222	Val Phe Ala Asp Gln Pro Asn Lys Ser Asp Ala Thr Asn Tyr Ala Ser		
223	225	230	235
224	His Ser Pro Pro Val Asn Arg Ala Leu Thr Pro Ala Ala Thr Leu Ser		
225	245	250	255
226	Ala Val Gln Asn Leu Val Val Glu Gly Leu Arg Cys Val Val Leu Pro		
227	260	265	270
228	Glu Asp Leu Cys His Lys Phe Leu Gln Leu Ala Glu Ser Asn Thr Val		
229	275	280	285
230	Arg Gly Ile Glu Thr Cys Gly Ile Leu Cys Gly Lys Leu Thr His Asn		
231	290	295	300
232	Glu Phe Thr Ile Thr His Val Ile Val Pro Lys Gln Ser Ala Gly Pro		
233	305	310	315
234	Asp Tyr Cys Asp Met Glu Asn Val Glu Leu Phe Asn Val Gln Asp		
235	325	330	335
236	Gln His Asp Leu Leu Thr Leu Gly Trp Ile His Thr His Pro Thr Gln		
237	340	345	350
238	Thr Ala Phe Leu Ser Ser Val Asp Leu His Thr His Cys Ser Tyr Gln		
239	355	360	365
240	Leu Met Leu Pro Glu Ala Ile Ala Ile Val Cys Ser Pro Lys His Lys		
241	370	375	380
242	Asp Thr Gly Ile Phe Arg Leu Thr Asn Ala Gly Met Leu Glu Val Ser		
243	385	390	395
244	Ala Cys Lys Lys Lys Gly Phe His Pro His Thr Lys Glu Pro Arg Leu		
245	405	410	415

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/723,475

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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 2,4,5,6,7,8,9,10,11,12,13
Seq#:2; Xaa Pos. 3,5,8,9,10,11,12,13,15,16

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 5

VERIFICATION SUMMARY

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Input Set : N:\Crf3\RULE60\10723475.raw

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L:26 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:29 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:30 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:39 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:42 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:45 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:48 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:49 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0